

SEQUENCE LISTING

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- (ii) TITLE OF INVENTION: HEREGULIN VARIANTS
- 15 (iii) NUMBER OF SEQUENCES: 92
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- 25 (v) COMPUTER READABLE FORM:
(A) MEDIUM TYPE: Floppy disk
(B) COMPUTER: IBM PC compatible
(C) OPERATING SYSTEM: PC-DOS/MS-DOS
(D) SOFTWARE: PatentIn Release #1.0, Version #1.30
- 30 (vi) CURRENT APPLICATION DATA:
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(A) APPLICATION NUMBER: 08/799,054
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(C) CLASSIFICATION:
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- 50 (2) INFORMATION FOR SEQ ID NO:1:
- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 71 amino acids
(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: protein

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Homo sapiens

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

15 Ser His Leu Val Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn
1 5 10 15
Gly Gly Glu Cys Phe Met Val Lys Asp Leu Ser Asn Pro Ser Arg Tyr
20 25 30
20 Leu Cys Lys Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr
35 40 45
Val Met Ala Ser Phe Tyr Lys His Leu Gly Ile Glu Phe Met Glu Ala
50 55 60
25 Glu Glu Leu Tyr Gln Lys Arg
65 70

(2) INFORMATION FOR SEQ ID NO:2:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 66 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: protein

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Homo sapiens

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

45 Ser His Leu Val Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn
1 5 10 15
50 Gly Gly Glu Cys Phe Met Val Lys Asp Leu Ser Asn Pro Ser Arg Tyr
20 25 30
Leu Cys Lys Cys Gln Pro Gly Phe Thr Gly Ala Arg Cys Thr Glu Asn
35 40 45

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Val Pro Met Lys Val Gln Asn Gln Glu Lys Ala Glu Glu Leu Tyr Gln
50 55 60

5 Lys Arg
65

(2) INFORMATION FOR SEQ ID NO:3:

- 10 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 63 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

15 (ii) MOLECULE TYPE: protein

(iii) HYPOTHETICAL: NO

- 20 (vi) ORIGINAL SOURCE:
(A) ORGANISM: Homo sapiens

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

25 Ser His Leu Val Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn
1 5 10 15
30 Gly Gly Glu Cys Phe Met Val Lys Asp Leu Ser Asn Pro Ser Arg Tyr
20 25 30
Leu Cys Lys Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr
35 40 45
35 Val Met Ala Ser Phe Tyr Lys Ala Glu Glu Leu Tyr Gln Lys Arg
50 55 60

(2) INFORMATION FOR SEQ ID NO:4:

- 40 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 65 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

45 (ii) MOLECULE TYPE: protein

(iii) HYPOTHETICAL: NO

- 50 (vi) ORIGINAL SOURCE:
(A) ORGANISM: Homo sapiens

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

Ser His Leu Val Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn
 1 5 10 15
 5 Gly Gly Glu Cys Phe Met Val Lys Asp Leu Ser Asn Pro Ser Arg Tyr
 20 25 30
 Leu Cys Lys Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr
 35 40 45
 10 Val Met Ala Ser Phe Tyr Ser Thr Ser Thr Pro Phe Leu Ser Leu Pro
 50 55 60
 Glu
 15 65

(2) INFORMATION FOR SEQ ID NO:5:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 66 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: protein

(iii) HYPOTHETICAL: NO

- (vi) ORIGINAL SOURCE:
 (A) ORGANISM: Rattus rattus

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

35 Ser His Leu Ile Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn
 1 5 10 15
 Gly Gly Glu Cys Phe Thr Val Lys Asp Leu Ser Asn Pro Ser Arg Tyr
 20 25 30
 40 Leu Cys Lys Cys Gln Pro Gly Phe Thr Gly Ala Arg Cys Thr Glu Asn
 35 40 45
 Val Pro Met Lys Val Gln Thr Gln Glu Lys Ala Glu Glu Leu Tyr Gln
 45 50 55 60
 Lys Arg
 65

50 (2) INFORMATION FOR SEQ ID NO:6:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 71 amino acids
 (B) TYPE: amino acid

(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: protein

5

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Rattus rattus

10

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

15 Ser His Leu Ile Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn
1 5 10 15

Gly Gly Glu Cys Phe Thr Val Lys Asp Leu Ser Asn Pro Ser Arg Tyr
20 25 30

20 Leu Cys Lys Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr
35 40 45

Val Met Ala Ser Phe Tyr Lys His Leu Gly Ile Glu Phe Met Glu Ala
50 55 60

25

Glu Glu Leu Tyr Gln Lys Arg
65 70

(2) INFORMATION FOR SEQ ID NO:7:

30

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 63 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

35

(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: protein

(iii) HYPOTHETICAL: NO

40

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Rattus rattus

45

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

Ser His Leu Ile Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn
1 5 10 15

50 Gly Gly Glu Cys Phe Thr Val Lys Asp Leu Ser Asn Pro Ser Arg Tyr
20 25 30

Leu Cys Lys Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr
35 40 45

Val Met Ala Ser Phe Tyr Lys Ala Glu Glu Leu Tyr Gln Lys Arg
 50 55 60

5 (2) INFORMATION FOR SEQ ID NO:8:

(i) SEQUENCE CHARACTERISTICS:

- 10 (A) LENGTH: 64 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: protein

15 (iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Rattus rattus

20 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

Ser His Leu Ile Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn
 1 5 10 15

25 Gly Gly Glu Cys Phe Thr Val Lys Asp Leu Ser Asn Pro Ser Arg Tyr
 20 25 30

30 Leu Cys Lys Cys Gln Pro Gly Phe Thr Gly Ala Arg Cys Thr Glu Asn
 35 40 45

Val Pro Met Phe Tyr Ser Thr Ser Thr Pro Phe Leu Ser Leu Pro Glu
 50 55 60

35 (2) INFORMATION FOR SEQ ID NO:9:

(i) SEQUENCE CHARACTERISTICS:

- 40 (A) LENGTH: 81 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: protein

45 (iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Rattus rattus

50

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

Ser His Leu Ile Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn

[illegible]

(2) INFORMATION FOR SEO ID NO:10:

20 (1) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 65 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: protein

(iii) HYPOTHETICAL: NO

30 (vi) ORIGINAL SOURCE:
(A) ORGANISM: Homo sapiens

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:

35	Ser	His	Leu	Val	Lys	Cys	Ala	Glu	Lys	Glu	Lys	Thr	Phe	Cys	Val	Asn
	1				5					10					15	
40	Gly	Gly	Glu	Cys	Phe	Met	Val	Lys	Asp	Leu	Ser	Asn	Pro	Ser	Arg	Tyr
				20					25					30		
	Leu	Cys	Lys	Cys	Pro	Asn	Glu	Phe	Thr	Gly	Asp	Arg	Cys	Gln	Asn	Tyr
				35				40					45			
45	Val	Met	Ala	Ser	Phe	Tyr	Ser	Thr	Ser	Thr	Pro	Phe	Leu	Ser	Leu	Pro
	50						55					60				

Glu
65

(2) INFORMATION FOR SEQ ID NO:11:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 65 amino acids

(B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

5 (ii) MOLECULE TYPE: protein

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

10 (A) ORGANISM: Homo sapiens

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:

15 Ser His Leu Val Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn
 1 5 10 15

Gly Gly Glu Cys Phe Met Val Lys Asp Leu Ser Asn Pro Ser Arg Tyr
 20 25 30

20 Leu Cys Lys Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr
 35 40 45

25 Val Met Ala Ser Phe Tyr Ser Thr Ser Thr Pro Phe Leu Ser Leu Pro
 50 55 60

Glu
 65

30 (2) INFORMATION FOR SEQ ID NO:12:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 65 amino acids
 (B) TYPE: amino acid
 35 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: protein

40 (iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Homo sapiens

45

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

Ser His Leu Val Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn
 1 5 10 15

50 Gly Gly Glu Cys Phe Met Val Lys Asp Leu Ser Asn Pro Ser Arg Tyr
 20 25 30

Leu Cys Lys Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr

35

40

45

Val Met Ala Ser Phe Tyr Ser Thr Ser Thr Pro Phe Leu Ser Leu Pro
 50 55 60

5
 Glu
 65

(2) INFORMATION FOR SEQ ID NO:13:

10

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 71 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

15

(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: protein

(iii) HYPOTHETICAL: NO

20

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Gallus domesticus

25

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:

Ser His Leu Thr Lys Cys Asp Ile Lys Gln Lys Ala Phe Cys Val Asn
 1 5 10 15

30

Gly Gly Glu Cys Tyr Met Val Lys Asp Leu Pro Asn Pro Pro Arg Tyr
 20 25 30

Leu Cys Lys Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr
 35 40 45

35

Val Met Ala Ser Phe Tyr Lys His Leu Gly Ile Glu Phe Met Glu Ala
 50 55 60

40

Glu Glu Leu Tyr Gln Lys Arg
 65 70

(2) INFORMATION FOR SEQ ID NO:14:

45

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 49 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: not relevant

50

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:

5 Ser His Leu Val Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn
 1 5 10 15
 Gly Gly Glu Cys Phe Met Val Lys Asp Pro Ser Arg Tyr Leu Cys Lys
 10 20 25 30
 Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr Val Met Ala
 35 40 45
 15 Ser

(2) INFORMATION FOR SEQ ID NO:15:

20 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 48 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant
 25 (ii) MOLECULE TYPE: peptide
 (iii) HYPOTHETICAL: NO
 30 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: Homo sapiens

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:

35 Asn Ser Asp Ser Glu Cys Pro Leu Ser His Asp Gly Tyr Cys Leu His
 1 5 10 15
 Asp Gly Val Cys Met Tyr Ile Glu Ala Leu Asp Lys Tyr Ala Cys Asn
 40 20 25 30
 Cys Val Val Gly Tyr Ile Gly Glu Arg Cys Gln Tyr Arg Asp Leu Arg
 35 40 45

(2) INFORMATION FOR SEQ ID NO:16:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 49 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant
 50 (ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

5 (A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:

10 Ser His Leu Val Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn
1 5 10 15
Gly Gly Glu Cys Phe Met Val Lys Asp Pro Ser Arg Tyr Leu Cys Lys
20 25 30
15 Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr Val Ile Ala
35 40 45

Ser

20

(2) INFORMATION FOR SEQ ID NO:17:

(i) SEQUENCE CHARACTERISTICS:

25 (A) LENGTH: 52 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

30 (ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

35 (A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:

40 Trp Glu Leu Val Pro Cys Gly Trp Asp Arg Glu Gly Phe Cys Val Asn
1 5 10 15
Gly Gly Glu Cys Phe Met Val Lys Asp Leu Ser Asn Pro Ser Arg Tyr
20 25 30
45 Leu Cys Lys Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr
35 40 45
Val Ile Ala Ser
50 50

(2) INFORMATION FOR SEQ ID NO:18:

(i) SEQUENCE CHARACTERISTICS:

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(A) LENGTH: 49 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

5

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

10

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:

15

Trp Glu Leu Val Pro Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn
 1 5 10 15

20

Gly Gly Glu Cys Tyr Lys Val Arg Ile Tyr Gly Tyr Leu Met Cys Lys
 20 25 30

Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr Val Ile Ala
 35 40 45

25

Ser

(2) INFORMATION FOR SEQ ID NO:19:

30

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 49 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

35

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

40

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:

45

Trp Glu Leu Val Pro Cys Gly Trp Asp Arg Glu Gly Phe Cys Val Asn
 1 5 10 15

50

Gly Gly Glu Cys Tyr Lys Val Arg Ile Tyr Gly Tyr Leu Met Cys Lys
 20 25 30

Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr Val Ile Ala
 35 40 45

Ser

(2) INFORMATION FOR SEQ ID NO:20:

5

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 49 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

10

(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

15

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

20

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:20:

Trp	Glu	Leu	Val	Pro	Cys	Gly	Trp	Asp	Arg	Glu	Gly	Phe	Cys	Val	Asn
1				5			10						15		

25

Gly	Gly	Glu	Cys	Tyr	Lys	Val	Arg	Ile	Tyr	Arg	Tyr	Arg	Met	Cys	Lys
		20					25						30		

30

Cys	Pro	Asn	Glu	Phe	Thr	Gly	Asp	Arg	Cys	Gln	Asn	Tyr	Val	Ile	Ala
		35					40					45			

Ser

(2) INFORMATION FOR SEQ ID NO:21:

35

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 49 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

40

(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

45

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

50

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:21:

Ser	His	Leu	Val	Lys	Cys	Ala	Glu	Lys	Glu	Lys	Thr	Phe	Cys	Val	Asn
1				5				10					15		

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Gly Gly Glu Cys Phe Met Val Lys Asp Tyr Gly Tyr Leu Met Cys Lys
 20 25 30

5 Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr Val Ile Ala
 35 40 45

Ser

10 (2) INFORMATION FOR SEQ ID NO:22:

(i) SEQUENCE CHARACTERISTICS:

- 15 (A) LENGTH: 52 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

20 (iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:22:

Ser His Leu Val Lys Cys Gly Glu Glu Arg Glu Gly Phe Cys Val Asn
 1 5 10 15

30 Gly Gly Glu Cys Tyr Arg Val Lys Thr Leu Ser Asn Pro Ser Arg Tyr
 20 25 30

35 Leu Cys Lys Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr
 35 40 45

Val Met Ala Ser
 50

40 (2) INFORMATION FOR SEQ ID NO:23:

(i) SEQUENCE CHARACTERISTICS:

- 45 (A) LENGTH: 49 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

50 (iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:23:

5 Ser His Leu Val Lys Cys Gly Glu Glu Arg Glu Gly Phe Cys Val Asn
 1 5 10 15
 Gly Gly Glu Cys Phe Met Val Lys Asp Tyr Gly Tyr Leu Met Cys Lys
 20 25 30
 10 Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr Val Met Ala
 35 40 45
 Ser

15

(2) INFORMATION FOR SEQ ID NO:24:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 49 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant
- (ii) MOLECULE TYPE: peptide
- (iii) HYPOTHETICAL: NO
- (vi) ORIGINAL SOURCE:
 (A) ORGANISM: Not relevant (recombinant)

30

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:24:

35 Ser His Leu Val Lys Cys Gly Glu Glu Arg Glu Gly Phe Cys Val Asn
 1 5 10 15
 Gly Gly Glu Cys Tyr Arg Val Lys Thr Tyr Gly Tyr Leu Met Cys Lys
 20 25 30
 40 Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr Val Met Ala
 35 40 45
 Ser

45

(2) INFORMATION FOR SEQ ID NO:25:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 52 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant
- (ii) MOLECULE TYPE: peptide

50

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

5 (A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:25:

10 Ser His Leu Val Lys Cys Gly Glu Glu Arg Glu Gly Phe Cys Val Asn
1 5 10 15
Gly Gly Glu Cys Phe Met Val Lys Asp Leu Ser Asn Pro Ser Arg Tyr
20 25 30
15 Leu Cys Lys Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr
35 40 45
Val Ile Ala Ser
20 50

(2) INFORMATION FOR SEQ ID NO:26:

(i) SEQUENCE CHARACTERISTICS:

25 (A) LENGTH: 49 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

30 (ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

35 (A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:26:

40 Ser His Leu Val Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn
1 5 10 15
Gly Gly Glu Cys Tyr Arg Val Lys Thr Tyr Gly Tyr Leu Met Cys Lys
20 25 30
45 Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr Val Met Ala
35 40 45
Ser

50

(2) INFORMATION FOR SEQ ID NO:27:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 49 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

5

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

10

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:27:

Ser His Leu Val Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn
 1 5 10 15

20

Gly Gly Glu Cys Tyr Arg Val Lys Thr Tyr Gly Tyr Leu Met Cys Lys
 20 25 30

Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr Val Ile Ala
 35 40 45

25

Ser

(2) INFORMATION FOR SEQ ID NO:28:

30

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 52 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

35

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

40

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

45

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:28:

Ser His Leu Val Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn
 1 5 10 15

50

Gly Gly Glu Cys Tyr Arg Val Lys Thr Leu Ser Asn Pro Ser Arg Tyr
 20 25 30

Leu Cys Lys Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr

35

40

45

Val Ile Ala Ser
50

5

(2) INFORMATION FOR SEQ ID NO:29:

(i) SEQUENCE CHARACTERISTICS:

- 10 (A) LENGTH: 52 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

15

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

- 20 (A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:29:

25 Ser His Leu Val Lys Cys Gly Glu Glu Arg Glu Gly Phe Cys Val Asn
1 5 10 15

Gly Gly Glu Cys Tyr Arg Val Lys Thr Leu Ser Asn Pro Ser Arg Tyr
20 25 30

30

Leu Cys Lys Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr
35 40 45

Val Ile Ala Ser
50

35

(2) INFORMATION FOR SEQ ID NO:30:

(i) SEQUENCE CHARACTERISTICS:

- 40 (A) LENGTH: 49 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

45

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

- 50 (A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:30:

Ser His Leu Val Lys Cys Gly Glu Glu Arg Glu Gly Phe Cys Val Asn
 1 5 10 15
 5 Gly Gly Glu Cys Phe Met Val Lys Asp Tyr Gly Tyr Leu Met Cys Lys
 20 25 30
 Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr Val Ile Ala
 35 40 45
 10 Ser

(2) INFORMATION FOR SEQ ID NO:31:

- 15 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 49 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant
 20
 (ii) MOLECULE TYPE: peptide
 (iii) HYPOTHETICAL: NO
 25 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: Not relevant (recombinant)

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:31:

Ser His Leu Val Lys Cys Gly Glu Glu Arg Glu Gly Phe Cys Val Asn
 1 5 10 15
 35 Gly Gly Glu Cys Tyr Arg Val Lys Thr Tyr Gly Tyr Leu Met Cys Lys
 20 25 30
 Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr Val Ile Ala
 40 35 40 45
 Ser

(2) INFORMATION FOR SEQ ID NO:32:

- 45 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 49 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant
 50
 (ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:32:

10 Ser His Leu Val Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn
1 5 10 15
Gly Gly Glu Cys Tyr Arg Val Lys Thr Tyr Gly Tyr Leu Met Cys Lys
20 25 30
15 Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln His Tyr Val Ile Ala
35 40 45

Ser

20

(2) INFORMATION FOR SEQ ID NO:33:

(i) SEQUENCE CHARACTERISTICS:

25 (A) LENGTH: 49 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

30 (ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

35 (A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:33:

40 Ser His Leu Val Lys Cys Gly Glu Glu Arg Glu Gly Phe Cys Val Asn
1 5 10 15
Gly Gly Glu Cys Tyr Arg Val Lys Thr Tyr Gly Tyr Leu Met Cys Lys
45 20 25 30
Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln His Tyr Val Ile Ala
35 40 45

50 Ser

(2) INFORMATION FOR SEQ ID NO:34:

- 1082747.022202
- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 4 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant
- (ii) MOLECULE TYPE: peptide
- (iii) HYPOTHETICAL: NO
- (vi) ORIGINAL SOURCE:
(A) ORGANISM: Not relevant (recombinant)
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:34:
Gly Gly Gly Ser
1
- (2) INFORMATION FOR SEQ ID NO:35:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 7 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant
- (ii) MOLECULE TYPE: peptide
- (iii) HYPOTHETICAL: NO
- (vi) ORIGINAL SOURCE:
(A) ORGANISM: Not relevant (recombinant)
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:35:
Gly Gly Gly Ser Gly Gly Gly
1 5
- (2) INFORMATION FOR SEQ ID NO:36:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 5 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant
- (ii) MOLECULE TYPE: peptide
- (iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:
(A) ORGANISM: Not relevant (recombinant)

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:36:

Thr Arg Asp Lys Thr
1 5

10

(2) INFORMATION FOR SEQ ID NO:37:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 5 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

15

(ii) MOLECULE TYPE: peptide

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(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:
(A) ORGANISM: Not relevant (recombinant)

25

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:37:

Asp Asp Asp Asp Lys
1 5

30

(2) INFORMATION FOR SEQ ID NO:38:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 5 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

35

(ii) MOLECULE TYPE: peptide

40

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:
(A) ORGANISM: Homo sapiens

45

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:38:

Ser His Leu Val Lys
1 5

50

(2) INFORMATION FOR SEQ ID NO:39:

(i) SEQUENCE CHARACTERISTICS:

- 5 (A) LENGTH: 5 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

10

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

- 15 (A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:39:

20 Trp Arg Leu Val Pro
1 5

(2) INFORMATION FOR SEQ ID NO:40:

(i) SEQUENCE CHARACTERISTICS:

- 25 (A) LENGTH: 5 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

30

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

- 35 (A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:40:

40 Trp Ser Leu Gln Pro
1 5

(2) INFORMATION FOR SEQ ID NO:41:

(i) SEQUENCE CHARACTERISTICS:

- 50 (A) LENGTH: 5 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

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(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:41:

10 Trp Glu Leu Val Pro
1 5

(2) INFORMATION FOR SEQ ID NO:42:

15 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 5 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: not relevant

20

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

25 (vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:42:

Trp Ser Leu Val Lys
1 5

35 (2) INFORMATION FOR SEQ ID NO:43:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 5 amino acids

(B) TYPE: amino acid

40 (C) STRANDEDNESS: not relevant

(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

45 (iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:43:

Trp Ser Leu Ile Pro

1

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(2) INFORMATION FOR SEQ ID NO:44:

- 5 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 5 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant
- 10 (ii) MOLECULE TYPE: peptide
(iii) HYPOTHETICAL: NO
- 15 (vi) ORIGINAL SOURCE:
(A) ORGANISM: Not relevant (recombinant)

20 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:44:

Trp Arg Leu Val Ala
1 5

25 (2) INFORMATION FOR SEQ ID NO:45:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 5 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant
- 30 (ii) MOLECULE TYPE: peptide
(iii) HYPOTHETICAL: NO
- 35 (vi) ORIGINAL SOURCE:
(A) ORGANISM: Not relevant (recombinant)

40

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:45:

Trp Ala Leu Val Pro
1 5

45

(2) INFORMATION FOR SEQ ID NO:46:

- 50 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 5 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

- (ii) MOLECULE TYPE: peptide
- (iii) HYPOTHETICAL: NO
- 5 (vi) ORIGINAL SOURCE:
(A) ORGANISM: Not relevant (recombinant)
- 10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:46:
Trp Ser Leu Gln Lys
1 5
- 15 (2) INFORMATION FOR SEQ ID NO:47:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 5 amino acids
(B) TYPE: amino acid
20 (C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant
(ii) MOLECULE TYPE: peptide
25 (iii) HYPOTHETICAL: NO
(vi) ORIGINAL SOURCE:
(A) ORGANISM: Not relevant (recombinant)
30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:47:
Trp Glu Leu Val Ala
1 5
35 (2) INFORMATION FOR SEQ ID NO:48:
(i) SEQUENCE CHARACTERISTICS:
40 (A) LENGTH: 5 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant
45 (ii) MOLECULE TYPE: peptide
(iii) HYPOTHETICAL: NO
(vi) ORIGINAL SOURCE:
50 (A) ORGANISM: Not relevant (recombinant)
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:48:

10882747.022202

Trp Ser Leu Glu Pro

1 5

5 (2) INFORMATION FOR SEQ ID NO:49:

(i) SEQUENCE CHARACTERISTICS:

- 10 (A) LENGTH: 6 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

15 (iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Homo sapiens

20

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:49:

Ala Glu Lys Glu Lys Thr

25 1 5

(2) INFORMATION FOR SEQ ID NO:50:

(i) SEQUENCE CHARACTERISTICS:

- 30 (A) LENGTH: 6 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

35 (ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

40 (A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:50:

45

Gly Val Gly Arg Asp Gly

1 5

(2) INFORMATION FOR SEQ ID NO:51:

50

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 6 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

5 (iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

10

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:51:

Gly Gly Glu Arg Glu Gly
1 5

15

(2) INFORMATION FOR SEQ ID NO:52:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 6 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: not relevant

20

(ii) MOLECULE TYPE: peptide

25

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

30

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:52:

Gly Glu Glu Arg Glu Gly
1 5

35

(2) INFORMATION FOR SEQ ID NO:53:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 6 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: not relevant

40

(ii) MOLECULE TYPE: peptide

45

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

50

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:53:

5 Gly Trp Asp Arg Glu Gly
1 5

(2) INFORMATION FOR SEQ ID NO:54:

10 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 6 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

15 (ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

20 (vi) ORIGINAL SOURCE:
(A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:54:

25 Gly Val Gln Arg Glu Gly
1 5

(2) INFORMATION FOR SEQ ID NO:55:

30 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 6 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
35 (D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

40 (vi) ORIGINAL SOURCE:
(A) ORGANISM: Not relevant (recombinant)

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:55:

50 Gly Glu Glu Arg Ala Gly
1 5

(2) INFORMATION FOR SEQ ID NO:56:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 6 amino acids

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(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

5 (ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

10 (A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:56:

15

Gly Lys Glu Arg Glu Gly
1 5

(2) INFORMATION FOR SEQ ID NO:57:

20

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 6 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

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(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

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(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:57:

Thr Asn Ser Arg Glu Gly
1 5

40

(2) INFORMATION FOR SEQ ID NO:58:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 6 amino acids

45

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

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(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

5 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:58:
 Asp Lys Ser Arg Glu Gly
 1 5

10 (2) INFORMATION FOR SEQ ID NO:59:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 6 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: Not relevant (recombinant)

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:59:

Gly Glu Asp Arg Lys Gln
 1 5

30 (2) INFORMATION FOR SEQ ID NO:60:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 6 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: Not relevant (recombinant)

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:60:

50 Gly Arg Glu Arg Glu Gly
 1 5

(2) INFORMATION FOR SEQ ID NO:61:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 5 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: Homo sapiens

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:61:
 Val Asn Gly Gly Glu
 1 5

(2) INFORMATION FOR SEQ ID NO:62:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 5 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:62:
 Val Asn Gly Gly Glu
 1 5

(2) INFORMATION FOR SEQ ID NO:63:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 5 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

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- (vi) ORIGINAL SOURCE:
 (A) ORGANISM: Not relevant (recombinant)

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- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:63:

Val Asn Gly Gly Val
 1 5

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- (2) INFORMATION FOR SEQ ID NO:64:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 5 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

15

- (ii) MOLECULE TYPE: peptide

20

- (iii) HYPOTHETICAL: NO

- (vi) ORIGINAL SOURCE:
 (A) ORGANISM: Not relevant (recombinant)

25

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:64:

Val Asn Gly Gly Gln
 1 5

30

- (2) INFORMATION FOR SEQ ID NO:65:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 5 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

35

- (ii) MOLECULE TYPE: peptide

40

- (iii) HYPOTHETICAL: NO

- (vi) ORIGINAL SOURCE:
 (A) ORGANISM: Homo sapiens

45

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- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:65:

Phe Met Val Lys Asp
 1 5

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- (2) INFORMATION FOR SEQ ID NO:66:
- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 5 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: not relevant
 - (D) TOPOLOGY: not relevant
 - (ii) MOLECULE TYPE: peptide
 - (iii) HYPOTHETICAL: NO
 - (vi) ORIGINAL SOURCE:
 - (A) ORGANISM: Not relevant (recombinant)
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:66:
Tyr Lys Val Arg Ile
1 5
- (2) INFORMATION FOR SEQ ID NO:67:
- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 5 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: not relevant
 - (D) TOPOLOGY: not relevant
 - (ii) MOLECULE TYPE: peptide
 - (iii) HYPOTHETICAL: NO
 - (vi) ORIGINAL SOURCE:
 - (A) ORGANISM: Not relevant (recombinant)
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO:67:
Phe Arg Val Lys Thr
1 5
- (2) INFORMATION FOR SEQ ID NO:68:
- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 5 amino acids
 - (B) TYPE: amino acid
 - (C) STRANDEDNESS: not relevant
 - (D) TOPOLOGY: not relevant
 - (ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:
(A) ORGANISM: Not relevant (recombinant)

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:68:

10 Tyr Arg Val Lys Thr
1 5

(2) INFORMATION FOR SEQ ID NO:69:

15 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 5 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

20 (ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

25 (vi) ORIGINAL SOURCE:
(A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:69:

Tyr Met Ile Lys Tyr
1 5

35 (2) INFORMATION FOR SEQ ID NO:70:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 5 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

40 (ii) MOLECULE TYPE: peptide

45 (iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:
(A) ORGANISM: Not relevant (recombinant)

50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:70:

Tyr Met Val Lys Thr

1

5

(2) INFORMATION FOR SEQ ID NO:71:

- 5 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 5 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant
- 10 (ii) MOLECULE TYPE: peptide
- (iii) HYPOTHETICAL: NO
- 15 (vi) ORIGINAL SOURCE:
(A) ORGANISM: Not relevant (recombinant)

20 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:71:

Met Arg Val Arg Thr
1 5

25 (2) INFORMATION FOR SEQ ID NO:72:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 5 amino acids
(B) TYPE: amino acid
30 (C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant
- (ii) MOLECULE TYPE: peptide
- 35 (iii) HYPOTHETICAL: NO
- (vi) ORIGINAL SOURCE:
(A) ORGANISM: Homo sapiens

40

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:72:

Pro Ser Arg Tyr Leu
1 5

45

(2) INFORMATION FOR SEQ ID NO:73:

- 50 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 5 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

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- (ii) MOLECULE TYPE: peptide
- (iii) HYPOTHETICAL: NO
- 5 (vi) ORIGINAL SOURCE:
(A) ORGANISM: Not relevant (recombinant)
- 10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:73:
- Thr Pro Tyr Leu Met
1 5
- 15 (2) INFORMATION FOR SEQ ID NO:74:
- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 5 amino acids
(B) TYPE: amino acid
20 (C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant
- (ii) MOLECULE TYPE: peptide
- 25 (iii) HYPOTHETICAL: NO
- (vi) ORIGINAL SOURCE:
(A) ORGANISM: Not relevant (recombinant)
- 30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:74:
- Tyr Gly Tyr Leu Met
35 1 5
- (2) INFORMATION FOR SEQ ID NO:75:
- (i) SEQUENCE CHARACTERISTICS:
40 (A) LENGTH: 5 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant
- 45 (ii) MOLECULE TYPE: peptide
- (iii) HYPOTHETICAL: NO
- (vi) ORIGINAL SOURCE:
50 (A) ORGANISM: Not relevant (recombinant)
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:75:

Tyr Arg Tyr Arg Met
1 5

5 (2) INFORMATION FOR SEQ ID NO:76:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 5 amino acids
10 (B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

15 (iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

20

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:76:

Thr His Tyr Arg Gly
25 1 5

(2) INFORMATION FOR SEQ ID NO:77:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 5 amino acids
30 (B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

35 (ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

40 (A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:77:

45

Thr His Tyr Arg Met
1 5

(2) INFORMATION FOR SEQ ID NO:78:

50

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 5 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

5 (iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

10

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:78:

Tyr Lys Tyr Arg Met

15

1 5

(2) INFORMATION FOR SEQ ID NO:79:

(i) SEQUENCE CHARACTERISTICS:

20

(A) LENGTH: 5 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: not relevant

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(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

30

(A) ORGANISM: Not relevant (recombinant)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:79:

35

Thr Lys Tyr Arg Gly

1 5

(2) INFORMATION FOR SEQ ID NO:80:

40

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 5 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

45

(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

50

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:80:

5 Tyr Lys Tyr Arg Leu
1 5

(2) INFORMATION FOR SEQ ID NO:81:

(i) SEQUENCE CHARACTERISTICS:
10 (A) LENGTH: 6 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
(D) TOPOLOGY: not relevant

15 (ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:
20 (A) ORGANISM: Homo sapiens

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:81:

25 Lys Cys Pro Asn Glu Phe
1 5

(2) INFORMATION FOR SEQ ID NO:82:

30 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 6 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: not relevant
35 (D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

40 (vi) ORIGINAL SOURCE:
(A) ORGANISM: Not relevant (recombinant)

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:82:

Arg Cys Ser Leu Glu Phe
1 5

50 (2) INFORMATION FOR SEQ ID NO:83:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 6 amino acids

(B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

- 5 (ii) MOLECULE TYPE: peptide
- (iii) HYPOTHETICAL: NO
- (vi) ORIGINAL SOURCE:
 10 (A) ORGANISM: Not relevant (recombinant)
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:83:
- 15 Arg Cys Ser Glu Glu Phe
 1 5
- (2) INFORMATION FOR SEQ ID NO:84:
- 20 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 6 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 25 (D) TOPOLOGY: not relevant
- (ii) MOLECULE TYPE: peptide
- (iii) HYPOTHETICAL: NO
- 30 (vi) ORIGINAL SOURCE:
 (A) ORGANISM: Not relevant (recombinant)
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:84:
- Lys Cys Pro Lys Glu Met
 1 5
- 40 (2) INFORMATION FOR SEQ ID NO:85:
- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 6 amino acids
 45 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant
- (ii) MOLECULE TYPE: peptide
- 50 (iii) HYPOTHETICAL: NO
- (vi) ORIGINAL SOURCE:
 (A) ORGANISM: Not relevant (recombinant)

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5 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:85:

Arg Cys Thr Val Glu Tyr

1 5

10 (2) INFORMATION FOR SEQ ID NO:86:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 6 amino acids

(B) TYPE: amino acid

15 (C) STRANDEDNESS: not relevant

(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

20 (vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:86:

Arg Cys Thr Val Glu Tyr

1 5

30 (2) INFORMATION FOR SEQ ID NO:87:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 6 amino acids

35 (B) TYPE: amino acid

(C) STRANDEDNESS: not relevant

(D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

40 (iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Not relevant (recombinant)

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:87:

Lys Cys Asn Ser Glu Phe

1 5

(2) INFORMATION FOR SEQ ID NO:88:

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5 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 6 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

(ii) MOLECULE TYPE: peptide

10 (iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: Not relevant (recombinant)

15 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:88:
 Arg Cys Lys Lys Glu Phe
 1 5

20 (2) INFORMATION FOR SEQ ID NO:89:

25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 5 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

30 (ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:
 (A) ORGANISM: Homo sapiens

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:89:
 Gln Asn Tyr Val Met
 1 5

40 (2) INFORMATION FOR SEQ ID NO:90:

45 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 5 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

50 (ii) MOLECULE TYPE: peptide

(iii) HYPOTHETICAL: NO

- (vi) ORIGINAL SOURCE:
 (A) ORGANISM: Not relevant (recombinant)

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- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:90:

Gln Trp Tyr Val Ile
 1 5

10

- (2) INFORMATION FOR SEQ ID NO:91:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 5 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

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- (ii) MOLECULE TYPE: peptide

20

- (iii) HYPOTHETICAL: NO

- (vi) ORIGINAL SOURCE:
 (A) ORGANISM: Not relevant (recombinant)

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- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:91:

Gln His Tyr Val Ile
 1 5

30

- (2) INFORMATION FOR SEQ ID NO:92:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 52 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: not relevant
 (D) TOPOLOGY: not relevant

35

- (ii) MOLECULE TYPE: peptide

40

- (iii) HYPOTHETICAL: NO

- (vi) ORIGINAL SOURCE:
 (A) ORGANISM: Homo sapiens

45

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:92:

Ser His Leu Val Lys Cys Ala Glu Lys Glu Lys Thr Phe Cys Val Asn
 1 5 10 15

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Gly Gly Glu Cys Phe Met Val Lys Asp Leu Ser Asn Pro Ser Arg Tyr
 20 25 30
 5 Leu Cys Lys Cys Pro Asn Glu Phe Thr Gly Asp Arg Cys Gln Asn Tyr
 35 40 45
 Val Met Ala Ser
 50